CLAIMS

What is claimed is:

1.   A very flexible MAC/PHY layer controller comprising programmable pre-defined operation hardware coprocessor modules including programmable parameterized functions, wherein the programmable coprocessor modules are coupled to a general purpose processor and hardwired DSP logic.

2.   The controller of claim 1, wherein the hardware module can be easily adapted to changes in regulatory, device and end-product requirements with simple software changes.

3.   The controller of claim 1, wherein the hardware modules are an implementation of a PLC MAC/PHY, targeted at an in-home environment.

4.   The controller of claim 1, wherein the hardware modules are an implementation of a PLC MAC/PHY, targeted at an access environment.

5.   The controller of claim 1, wherein the hardware modules are an implementation of a PLC MAC/PHY, targeted at an MDU/MTU environment.

6.   The controller of claim 1, wherein the hardware modules are an implementation of a MAC/PHY targeted at any communications technology.